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ABSTRACT

This study surveyed 111 women faculty in four-year nursing education programs who were also enrolled in doctoral study to determine the stresses involved in balancing the two roles of teacher and student. The theoretical framework was an extension of Cutrona and Russell's social support model which proposes that stressful life events impact particular life domains (role change, home achievement, time, family/friends relations, money, work/school achievement) and that types and sources of social support when matched with a particular life domain reduce the impact of stress within that life domain. Participants completed three instruments: the Norbeck Social Support Questionnaire measuring types/sources of social support; the Life As A Doctoral Student Survey measuring changes within life domains; and the Negative Affects Balance Subscale measuring stress. Taken together, the life domains accounted for 36 percent of the variance in stress, while matching types/sources of social support with particular life domains explained 16-19 percent of the variance in stress. Matching spousal aid support with both the role change and home achievement domains decreased stress, while matching friends' affect support with the work/school achievement domain increased stress. As a result of this study, a revised model was created to better reflect women's doctoral training experience. (Contains 36 references.) (DB)

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Matching Social Support and Sources of Stress In Female Nursing Faculty Pursuing Doctoral Study

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Matching Social Support and Sources of Stress In Female Nursing Faculty Pursuing Doctoral Study

Today, the majority of faculty teaching in four-year nursing education programs are not doctorally-prepared. Clearly, nursing education needs more doctorally-prepared faculty, yet women teaching nursing may perceive that returning to school for the doctorate is too stressful. To increase the number of doctorally-prepared faculty, nurse educators must explore ways to reduce stress for women doctoral students.

The theoretical framework guiding this study was an extension of Cutrona and Russell's social support model which proposes: that stressful life events impact particular Life Domains (Role Change, Home Achievement, Time, Family/Friends Relations, Money, Work/School Achievement); and that types and sources of social support when "matched" with a particular Life Domain reduce the impact of stress within that Life Domain. The purpose of this study was to determine if types and sources of social support when "matched" with changes within Life Domains were differentially related to stress.

Four-year nursing education programs in the Northeast region (n=107) were contacted and women faculty enrolled in doctoral study while teaching were invited to participate. Of the 157 women doctoral students who volunteered to participate, 111 completed surveys, a return rate of 70.7%. Subjects completed three tools: the Norbeck Social Support Questionnaire measuring types/sources of social support; the Life As A Doctoral Student Survey measuring changes within Life Domains; and the Negative Affects Balance Subscale measuring stress. Alpha coefficients ranged from .73 to .96. Data were analyzed using hierarchical multiple regression.

Taken together, the Life Domains accounted for 36% of the variance in stress, while "matching" types/sources of social support with particular Life Domains explained 16-19 % of the variance in stress. Matching Spousal Aid support with both the Role Change and Home Achievement Domains decreased stress, while matching Friends Affect support with the Work/School Achievement Domain increased stress. As a result of this study, a revised model was created which enriches our understanding of womens' doctoral experience and has implications for nursing, educators, women doctoral students, and all returning women.

Matching Social Support and Sources of Stress

In Female Nursing Faculty Pursuing Doctoral Study

Introduction

Studies indicate that returning to school can be stressful for women in general (Mallinckrodt & Leong, 1992; Rifenbary, 1995; Sikes, 1996) and nurses in particular (Gray et al., 1997; Thompson, 1992) and that such stress can take a toll on women's physical and emotional health (Dailey, 1994; Rifenbary, 1995; Sikes, 1996; VanDongen, 1988). Qualitative studies carried out by Debra Thompson (1992) and Gray and her colleagues (Gray et al., 1997) describe women's educational experience as a juggling act characterized by stressful life changes and the need to maintain a balance between and among their various roles.

Although the number of nurses with doctoral degrees has increased 31% over the last 17 years, today the majority of nurses teaching in four-year nursing education programs do not have a doctorate and the demand for doctorally-prepared nurses exceeds the supply (AACN, 1997). At a time when nursing education needs more teachers with doctorates, women educators may percieve that stress associated with returning to school for the doctorate is too great. To increase the number of nursing faculty with doctorates, educators must devise ways to reduce educational stress for women seeking the doctorate. This paper presents findings from my doctoral research which sought: 1) to determine if life changes that women doctoral students experienced were related to stress; and 2) to determine if matching social support with particular life changes was differentially related to stress in women doctoral students.

My interest in this research topic evolved from my own experience as a woman seeking a doctorate part-time while maintaining my full-time faculty position teaching nursing. In this paper, I first will describe the conceptual framework and research questions guiding the study. Then, I will discuss the research design, and study results. Finally, I will discuss the study findings within the context of a new conceptual model and offer implications for nurse educators.

Conceptual Framework

This study was guided by Cutrona and Russell's (1990) social support model which proposes that stressful life events can have a positive or negative impact upon particular arenas or Life Domains. According to Cutrona and Russell's model, events related to time and money impact the Asset Domain; events related to changes in interpersonal relationships such as death or divorce impact the Relationship Domain; events related to role changes impact the Social Role Domain; and events related to changes in one's status impact the Achievement Domain.

Cutrona and Russell's model also proposes that a particular type of support provided by a particular source would optimally match stress within a particular Life Domain, thereby, reducing the impact of stressful life events within that Life Domain. For example, this model proposes that loss of a job would impact the Asset Domain and that stress associated with this job loss could be offset by aid type of support in the form of a loan or monetary gift from a friend or a family member. Returning to school could impact the Role Change Domain and the best way to offset stress associated with returning to school could be affect types of support from friends or the spouse. Since the Cutrona and Russell model had not been tested previously, this exploratory study operationalized the Life Domains and tested the applicability of the concept of matching educational stressors (e.g., Life Domain changes) and social support in a sample of women doctoral students.

Research Questions

Based upon the theoretical framework and a review of the literature, this study addressed the following research questions: 1) Are changes within Life Domains associated with stress in women doctoral students? and 2) Are types/sources of social support when matched to particular Life Domains differentially related to stress in women doctoral students?

Methods

Sample

To obtain the sample, letters describing the study were sent to program administrators of all 107 four-year nursing education programs in the National League for Nursing's (NLN'S) North Atlantic Region (Region I) inviting all women faculty enrolled in doctoral study to participate. After two mailings, two weeks apart, 84 program administrators responded, yielding a total of 157 women who volunteered to participate. Of the 157 women who were mailed the surveys, 111 women completed and returned the surveys, a response rate of 70.7%. These 111 women doctoral students comprised the study sample. Representing all four-year nursing education programs in nine of the ten states located within NLN's North Atlantic Region as well as the District of Columbia, subjects ranged in age from 26 to 66 years (M=44.8, SD=8.43). The majority of women in the sample were married (76.6%), working full-time (90.0%), non-tenured (65.1%), and had been seeking the doctorate for almost five years (M=4.76 years, SD=2.55).

Instruments

To measure the study variables, three instruments were used. The Negative Affect Balance Subscale (Derogatis, 1975) measured the dependent variable of stress, since there is a direct correlation between negative affect and cognitive appraisal of a stressful life event (Lazarus & Folkman, 1984). Consisting of four subscales (anxiety, hostility, depression, guilt), this tool uses 20-item Likert-type statements to measure to what degree (where 0 = "never" to 4 = "always") participants experienced negative moods during the past month. This tool has been reliable and valid measuring stress in groups of educated women (Fisher, Silver, Chinsky, Goff, & Klar, 1990). In this study, Cronbach's alpha was .93.

The Life As A Doctoral Student Survey (LAADSS) (Kenty, 1995), a researcher-designed tool, operationalized Cutrona and Russell's (1990) Life Domains and measured participant's doctorally-related life changes. Developed from theory and research findings described in the

literature, the LAADSS consists of 32 Likert-type items pertaining to four Life Domain subscales (Asset, Relationship, Achievement, Role Change). Each subscale has a seven-point Likert format where 1 = changes increased greatly to 7 = changes decreased greatly. The LAADSS was revised twice: after a review by experts in both nursing and adult education; and after it was piloted on 65 women graduate students. A post-hoc confirmatory factor analysis of the LAADSS identified seven factors or Life Domains with loadings of .30 or higher rather than four Domains as proposed by Cutrona and Russell. In a hierarchical multiple regression analysis, these seven Domains explained more overall variance in stress (Multiple R=60, R^2=.36, p< .001) than the four Domains (Multiple R=58, R^2=.33, p< .001) proposed by Cutrona and Russell (1990). The configuration of the Life Domains derived from this post-hoc factor analysis was essentially the same as Cutrona and Russell's model except that: the Asset Domain separated into two Domains, Money (3 items) and Time (6 items); the Achievement Domain separated into two Domains, Home (4 items) and Work/School Achievement (7 items); and the Relationship Domain separated into two Domains, Family/Friends Relations (7 items) and Student Relations (2 items). The Role Change Domain (3 items) was unchanged. Alpha coefficients for the LAADSS tool as a whole and for the seven subscales ranged from .73 to .90. Findings are discussed using these seven, newly-configured Life Domains, since they explained more overall variance in stress than the original configuration of Life Domains.

The Norbeck Social Support Questionnaire (NSSQ), found to be reliable and valid measuring social support in groups of women seeking undergraduate and graduate degrees in nursing (Norbeck, Lindsey, & Carrieri, 1981, 1983), was used to gather data on social support. Initially, participants identify supportive people in their network that they could turn to for help. Then, using a five-point Likert scale (where 1 = not at all to 5 = a great deal), participants assess the quality of three types of social support (affect, affirm, aid) provided by each person in the network. Cronbach's alphas in this study were: .80, total; .96, affect; .95 affirm; and .80, aid. Respondents also provided demographic information. Hierarchical multiple regression analysis was used to address the research questions.

Results

The first research question sought to determine if changes within the seven Life Domains were related to stress in this sample of returning women. Table 1 reports correlations, means and

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Insert Table 1 about here

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standard deviations of the Life Domain variables and the stress variable, and findings from a hierarchical multiple regression analysis of the Life Domains on stress. A correlational matrix, generated to discover and analyze relationships between and among the independent variables (Life Domains) and the dependent variable (stress), indicated that four Life Domains (Home Achievement, Time, Family/Friends Relations, and Work/School Achievement) were negatively related to stress, while the Role Change Domain was positively related to stress. When entered into a hierarchical multiple regression equation according to mean ranking from lowest to highest or most to least impacted by doctoral study, the Life Domains explained 36% of the variance in stress (Multiple R=60, R^2=.36, p<.001).

The second research question sought to determine if particular types of social support provided by particular sources of support when matched to particular Life Domains were differentially related to stress in these women doctoral students. Because this study was exploratory in nature, a correlational matrix was initially generated to discover and analyze relationships between and among and the Life Domain variables, the social support variables, and the stress variable. While none of the Life Domains and social support variables were correlated with each other, two social support variables, Spousal Aid support (see Tables 2 and 3) and Friends Affect support (see Table 4) were correlated with stress. Results from these bivariate statistical analyses then guided multivariate procedures. Each of the two social support variables related to stress were entered on the first step of a hierarchical regression equation with each of the five Life Domain variables related to stress entered on the second step. Specifically, Spousal Aid support and each of the five Life Domain variables, Role Change, Home Achievement, Time,

Family/Friends Relations, and Work/School Achievement, were entered into a hierarchical regression equation with stress as the criterion variable. Friends Affect support and each of the five Life Domains were then ~~was then~~ entered into a hierarchical regression equation with stress as the criterion variable. Regressing the two social support variables and the five Life Domain variables on stress yielded three significant "main effects," but no interactional effects (Aiken & West, 1991). Specifically, Spousal Aid support when matched with the Role Change Domain, operationalized as the ability to balance competing demands from multiple roles and make rapid shifts in priorities, accounted for 16% of the variance in stress (see Table 2). The more Spousal

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Insert Table 2 about here

Aid women received to offset changes within the Role Change Domain, the less stress they experienced. Spousal Aid support when matched with the Home Achievement Domain, operationalized as the ability to keep up with activities at home such as cleaning the house, doing laundry, shopping and helping children with homework, also accounted for 16% of the variance in stress and stress levels decreased as spousal aid increased (see Table 3). Friends Affect support

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Insert Table 3 about here

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when matched with the Work/School Achievement Domain, operationalized as feelings of accomplishment at work and school, accounted for 19% of the variance in stress (see Table 4).

Insert Table 4 about here

For this sample of women, stress levels increased, however, as Friends Affect support increased. According to Cohen and Wills (1985), absence of an interaction between the social support variables and the Life Domains variables indicated that women had a quality support network

before starting school which provided continuous protection rather than exerting a "buffering effect" during stressful times.

Discussion

Findings from this study indicated that doctoral study can be associated with many life changes for women and that matching social support with specific life changes could help to reduce and/or offset stress associated with these life changes. Study findings also supported the premise of Cutrona and Russell's (1990) model, operationalized and tested for the first time in this research project. Findings generally focused on three major conceptual areas: stress within life domains, social support, and matching social support and stress within life domains. Each of these three conceptual areas will be discussed in turn.

Stress Within Life Domains

Similar to findings from other studies of women doctoral students (e.g., Gray et al., 1997; Sikes, 1996; VanDongen, 1988), women in this study found doctoral education to be associated with numerous life changes, accounting for 36% of the variance in stress. Women's major life changes were related to Role, Home Achievement, Time, Family/Friends Relations, and Work/School Achievement. While seeking the Ph.D., women experienced stress balancing multiple demands (e.g., changes in the Role Change Domain) and keeping up with responsibilities at home, such as doing the laundry, shopping, cooking and helping children with homework (e.g., changes in the Home Achievement Domain). Time conflicts (e.g., changes in the Time Domain) were also associated with stress and such time conflicts impacted women's relationships with their spouse, family members and friends (e.g., changes in the Family/Friends Relations Domain).

Stress levels decreased, however, as women's satisfaction with their work and school roles (Work/School Achievement Domain) increased. Other researchers studying women doctoral students reported similar feelings of satisfaction with school achievements (Gray et al., 1997). The fact that these women experienced less stress as their satisfaction within the work/school achievement domain increased could be similar to the "spiraling process of becoming" experienced by women in Gray et al.'s (1997) qualitative study. The fact that women's stress

levels decreased as their achievement at school increased also confirms the importance of integrative cognitive skills in the developmental process of women as adult learners (Heath, 1991; Hudson, 1991; Kolb, 1984). Such satisfaction with educational achievements could also indicate that these mid-life women were pursuing their passion with "whole heart and single mind" (Sheehy, 1995) and accessing the inner masculine aspect of their personality by assuming increased responsibility for themselves in the professional world (Levinson, 1996).

Social Support

Social support was a critical variable influencing women's doctoral experience. Study findings, however, indicated that social support had positive and negative components which supported other studies of returning women (e.g., Gray et al., 1997; Thompson, 1992). In this study, Spousal Aid support was associated with reduced stress, potentially easing women's transition to school (Antonucci, 1985). Friends Affect support, however, was associated with increased stress. Exchange theory (Clark & Mills, 1993) can be used to explain the differential effects of social support on the lives of these women. Women shared a communal relationship with the spouse, involving no obligation and debt. For example, if the spouse watched the children so that his wife could go to the library to study, the spouse did not expect his wife to return the favor. However, the reciprocal relationship that women shared with friends involved both obligation and debt. For example, if women received help from a friend analyzing data, it was expected that this favor would be reciprocated at some future time. This reciprocal relationship with friends involved a commitment of women's time and energy, thereby, creating stress. Such findings add to the small body of research indicating that social support's reciprocal nature could be associated with costs as well as rewards (Rook, 1984; Tilden & Galyen, 1987).

Matching Social Support and Stress Within Life Domains

Findings tentatively supported the model predicting that types and sources of social support were differentially effective when matched with a particular stressful life event (Friedman, 1993; Primomo, Yates, & Woods, 1990). Matching Spousal Aid support with the Role Change and the

Home Achievement Domains and matching Friends Affect support with the Work/School Achievement Domain accounted for 16-19% of the variance in stress.

An Adaptation Model for Returning Women

As a result of this study, an adaptation model for this sample of returning women was created (see Figure 1). This adaptation model integrated study findings with both Cutrona and

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Insert Figure 1 about here

Russell's (1990) social support model and Thompson's (1992) model of factors influencing women's participation and persistence in school. This integrated model identifies sources of educational stress (e.g., the five Life Domains found to be predictive of stress in multiple regression analysis) and contends that matching types/sources of social support with particular Life Domains could reduce educational stress for women doctoral students. A match between types/sources of social support and stress within Life Domains results in a state of balance, while a mismatch between social support and stress within Life Domains results in a state of imbalance. If imbalance occurs, women could re-evaluate educational goals and try to restructure/realign supportive networks. Inability to restructure supportive networks and regain a sense of balance could result in stress.

As indicated from findings in this study, matching social support with particular Life Domains could have a differential impact on women's stress levels, however, as depicted by the positive and negative symbols. For this sample of women, Spousal Aid when matched with the Role Change and Home Achievement Domains reduced stress, while Friends Affect support when matched with the Work/School Achievement Domain increased stress.

Implications for Educators

Findings from this study as well as findings from other studies of returning women have implications for educators working in doctoral programs. In addition to facing many life changes as evidenced by findings from this study, women tend to have unique needs because of academic

patterns of progression. Women in this study sample, like other returning women (Beeler, 1993; Robertson, 1991), had an academic pattern characterized by slow progress and several interruptions in reponse to major life events. In my research study, 81% of the women faced life-altering events that impacted program progression. These life altering events included illness, major surgery, separation and/or divorce, relocations, normal and high risk pregnancies, family illnesses and deaths, job changes, and caring for aging parents. In addition, four of the women were diagnosed with cancer while seeking the doctorate and temporarily interrupted their schooling during chemotherapy treatments. Recognizing that doctoral study is associated with many stressful changes and that life-altering events could impact program progression, educators must consider specific innovations aimed at: 1) making doctoral programs more "user friendly;" and 2) providing support programs for returning women and their families. Each of these suggestions will be discussed briefly.

Ensure That Doctoral Programs Are "User Friendly"

To meet the needs of returning women and allow for individual rates of program progression, educators must ensure that doctoral programs maximize flexibility and accessibility. Creating self-paced learning modules or credit packages and offering courses through distance learning could enhance accessibility and flexibility. In addition, educators must examine the relevancy of residency requirements given the profile of the today's adult learner.

Create Support Programs for Women and Their Families

Findings from this study and other studies (e.g., VanDongen, 1988) indicated that the whole family is impacted when the woman enrolls in a doctoral program, since she has less time and energy to devote to her role at home. Educators could ease women's transition to school by offering pre-enrollment and ongoing program supports for both returning women and their families. Such supports could include pre-enrollment and ongoing informational sessions describing program expectations. During pre-enrollment sessions, returning women could complete a self-assessment including an evaluation of their social support networks and their home and work commitments. Findings from this self-assessment could provide women with a realistic picture about how

enrolling in a doctoral program could impact their lives as well as their family's lives. By recognizing potential problems associated with returning to school, women could take proactive measures to reduce school-related stress. For example, knowing that time and an inability to keep up with responsibilities at home were sources of stress for women in this study, returning women could be proactive by restructuring household responsibilities and/or hiring someone to help with the housework and child care before starting a PhD program. The availability of ongoing support sessions could also be helpful in allowing both women and their family members to discuss problems and issues as they arise.

The literature indicates that it is often stressful for returning women who hold responsible jobs and leadership positions to return to school and assume on a student role that is often subservient to the teacher's role (Beeler, 1993; Kaplan, 1982). Therefore, educators must ensure that learning environments foster a mutual respect between the learner and the teacher. Educators could also consider creating formal mentoring systems between faculty and students as a way to foster the developmental process of female scholars (Hite, 1985; Meleis, Hall, & Stevens, 1994) and to reduce the rate of premature program termnation among female doctoral students (Beeler, 1993; Conway, 1989; Hite, 1985; Kaplan, 1982).

Other researchers (e.g., Goplerud, 1980; Hite, 1985; Ostrow, Paul, Dark, & Behrman, 1986) have found that support from fellow students helped returning women to complete their educational programs. Therefore, creating peer-directed study groups or seminars could be helpful, particularly while women are preparing for comprehensive examinations and throughout the dissertation process. Because findings from this study indicated that affect support from friends increased stress, however, educators must allow returning women to determine their own level of involvement in such groups rather than making participation mandatory.

Conclusion

Findings from this study enrich our understanding of women's doctoral experience and support other studies which have found that returning to school for the doctorate could be associated with many life changes for women. Although women in my study successfully managed

these life changes by calling upon certain individuals within their support network, educators could facilitate the doctoral process for women through innovations that enhance accessibility and flexibility and offer program supports. Such innovations could reduce the length of time that it takes women to complete the doctorate and could reduce the rate of premature program termination among women doctoral students (Beeler, 1993). In addition, such doctoral program innovations could serve to attract more women in general and more nurses in particular.

If nursing is truly committed to preparing leaders, then nursing education programs must be staffed with doctorally-prepared faculty. To increase the number of nursing faculty with doctorates, educators must offer "user friendly," supportive, doctoral programs that meet the unique needs of returning women. By offering innovative doctoral programs, educators could attract more women faculty from the profession of nursing, thereby, increasing the number of doctorally-prepared nursing faculty.

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Table 1

Hierarchical Regression of Life Domains on Stress

Variables	Stress (DV)	1	2	3	4	5	6	7	B	Beta	R^2 Ch
1 Role Change	.36***								2.01	.12	.13***
2 Home Achievement	-.34***	.35***							-2.26	-.19	.05**
3 Money	-.22*	.34***	.14						-1.23	-.12	.01
4 Time	-.32***	.19*	.17	.15					.11	.01	.05**
5 Fam/Friends Relations	-.50***	.35***	.28**	.09	.61***				-3.90	-.34	.08***
6 Student Relations	-.08	.03	.02	.12	-.11	-.05			.64	.06	.00
7 Wk/School Achievement	-.31***	.06	.00	-.05	.26**	.32***	-.38		-1.98	-.23	.04**
Means	1.29	1.24	1.81	2.60	2.94	3.27	4.86	5.12			
SD	.57	.72	.95	1.12	1.12	1.00	1.40	1.34			
										R^2=.36	
										Multiple R=.60***	

Note. Life Domains were measured on a scale where 1=changes increased greatly to 7=changes decreased greatly, the lower the Means of the Life Domains, the greater the doctorally-related changes. Stress was measured on a scale where 0=never to 4=always.

*p< .05, **p< .01, ***p< .001

Table 2

Hierarchical Regression Of Spousal Aid, Role Change Domain, and Spousal Aid X Role Change Domain On Stress

Variables	Stress (DV)	1	2	B	Beta	R^2 Ch
1 Spousal Aid	-.22*			-1.57	-.21	.05*
2 Role Change	.34***	-.05		4.88	.34	.11**
3 Interaction Term	-.04	.09	.23*	.46	.06	.00
						R^2=.16
						Multiple R =.40**

*p< .05, **p< .01, ***p< .001

Table 3

Hierarchical Regression Of Spousal Aid, Home Achievement Domain, and Spousal Aid X Home Achievement Domain On Stress

Variables	Stress (DV)	1	2	B	Beta	R^2 Ch
1 Spousal Aid	-.21*			-1.71	-.23	.05*
2 Home Achievement	-.34**	-.21		-4.04	-.34	.11**
3 Interaction Term	.04	-.14	.07	-.05	-.00	.96
					R^2=.16	
					Multiple R =.40***	

*p<.05, **p<.001

Table 4

Hierarchical Regression Of Friends Affect, Work/School Achievement Domain, and Friends Affect X Work/School Achievement Domain On Stress

Variables	Stress (DV)	1	2	B	Beta	R^2 Ch
1 Friends Affect	.23**			1.43	.21	.05*
2 Work/School Achievement	-.34***	.06		-2.04	-.23	.11*
3 Interaction Term	-.20***	.06	.47***	-106	-.20	.03
						R^2=.19
						Multiple R =.44** *

*p<.05, **p≤.01, ***p<.001

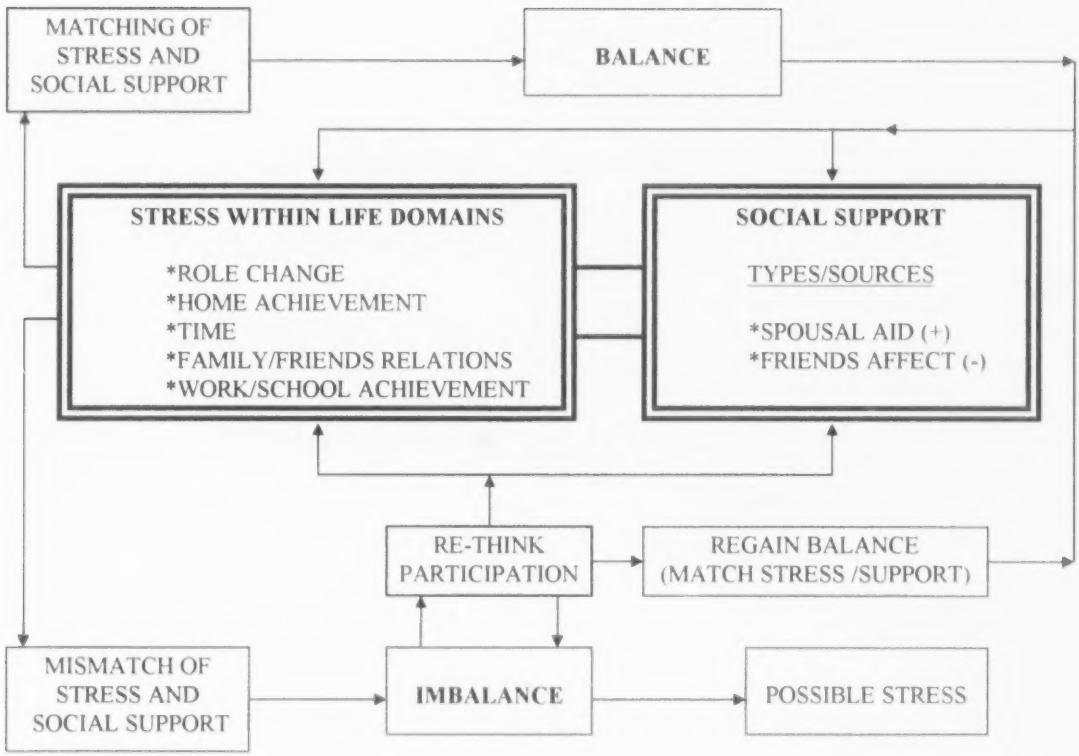

Figure 1. An adaptation model matching social support and educational stress in women doctoral students